

# AGING BIOLOGY UPDATE

BROUGHT TO YOU BY THE  
UAB NATHAN SHOCK CENTER OF EXCELLENCE  
IN THE BASIC BIOLOGY OF AGING

## Featured

[Diagnosing and treating systemic racism](#)

[Germline mutation rates in young adults predict longevity and reproductive lifespan](#)

[Gray whale transcriptome reveals longevity adaptations associated with DNA repair and ubiquitination](#)

[Opinion: Pathogens shape sex differences in mammalian aging](#)

## Headline vs Study

Headline: [Premature epigenomic aging acts like a ‘sleeper cell’ that is awoken by Western-style diet](#)

Study: [Epigenome environment interactions accelerate aging and unlock metabolically restricted epigenetic reprogramming in adulthood](#)

Headline: [BPA exposure and hormone changes are a dangerous combo for aging men](#)

Study: [Interactive effects of perinatal BPA or DES and adult testosterone and estradiol exposure on adult urethral obstruction and bladder, kidney, and prostate pathology in male mice](#)

Headline: [Ability to eliminate spent proteins influences brain aging and individual lifespan](#)

Study: [Reduced proteasome activity in the aging brain results in ribosome stoichiometry loss and aggregation](#)

## Contrary or Null Findings

[Removal of p16<sup>High</sup> senescent cells leads to a deterioration in health in middle aged mice](#)

[The senolytic drug Navitoclax causes bone loss and impaired osteoprogenitor function in aged mice](#)

[CITP: Obeticholic acid does not extend lifespan in worms](#)

[Metformin combined with a sirtuin activator shortens lifespan of male mice on a high fat diet](#)

[No strong evidence that cooperative breeders live longer than other mammals](#)

### **Energetics/Nutrition**

[GWAS of longevity and climbing ability in flies exposed to dietary restriction](#)

[Independent regulation of age associated fat accumulation and longevity in yeast](#)

[Review: Calorie restriction and aging in humans](#)

[Review: Polyphenols as caloric restriction mimetics](#)

[Review: Nutrition and sarcopenia](#)

### **Basic Biology**

[Age-dependent induction of upd3 is the main non-autonomous mechanism for fruit fly cardiac aging](#)

[Brd2 heterozygous mice live longer than wild-type C57B6/J](#)

[Repetitive elements as a transcriptomic marker of aging](#)

[Circulating SASP proteins as a predictor of age related human health](#)

[Removing senescent cells by genetically engineered T-cells](#)

[Identification of longevity compounds with minimized probabilities of side effects](#)

[Longevity pathways modulate lysosome activity in worms](#)

[Tissue specific mouse transcriptome changes with age](#)

[Review and perspective: AGE-damage: a missing hallmark of aging](#)

[Review and opinion: The aging transcriptome: Read between the lines](#)

[Review: Reducing senescent cell burden in aging and disease](#)

[Review: Designing neuroreparative strategies using aged regenerating animal models](#)

[Review: Effects of GH/IGF on the aging mitochondria](#)

[Review: Circadian rhythms and aging: It may not be what you do but when you do it](#)

[Review: Clonality in hematopoietic stem cell aging](#)

[Review: Hallmarks of aging in Drosophila intestinal stem cells](#)

## **Ecology & Evolution**

[Mating shortens lifespan in female but not male spider mites](#)

[Delayed mating increased lifespan of male and female tobacco cutworms](#)

[Modeling age-specific selection and lifespan beyond menopause](#)

[Female mice housed with sterilized males early in life have improved late life reproduction but decreased lifespan](#)

[Special Issue: Life history and learning in humans and other animals](#)

## **Novel Organisms/ Comparative**

[Transcriptome changes in male hydra under inducible aging](#)

[Plasma neurofilament light chain as a biomarker of aging and neurodegeneration in dogs](#)

[Promoting physiologic and emotional well-being during aging in companion cats](#)

[Moray eels living in marine protected areas grow bigger and live longer than those outside the protected areas](#)

[Age-related transcription changes in the long-lived red sea urchin](#)

[Novel genes associated with seed longevity in Arabidopsis](#)

[Older Algerian sand lizards have longer telomeres than younger individuals](#)

[Delaying age-related hearing loss in guinea pigs](#)

[Sex differences in survival in a natural population of the Meleager's blue butterfly](#)

[Similar changes in brain proteins of humans and rhesus macaques during aging](#)

[Review: Old and new models for the study of human aging](#)

[Review: The advent of grey mouse lemur as a short-lived primate model of aging](#)

## **Epidemiology/Demography**

[Climate change combined with population aging will potentially lead to 12-15 times more heat related deaths in 2050 in Jakarta Indonesia](#)

[GWAS of age-related diseases in a Japanese population](#)

[Higher IGF-1 and IGF binding proteins are associated with increased risk of mortality in older adults](#)

[Lower socioeconomic status is associated with accelerated aging independent of other health conditions](#)

[Increased parity in males and females is associated with increased frailty in older adults](#)

[Longer reproductive period is associated with increased risk of Alzheimer's in women](#)

[Dementia risk in women is higher in same-sex than opposite-sex twins](#)

### **Clinical**

[High blood pressure is negatively associated with anxiety and depression in older men but not women](#)

[High testosterone is associated with increased risk of cardiovascular mortality in older men](#)

[Review: Role of aging and the immune response to respiratory viral infections: Potential implications for COVID-19](#)

[Review: Sex differences in age-related hearing loss](#)

### **Care-giving**

[Transition to caregiving does not lead to large increases in inflammatory biomarkers](#)

[Older caregivers are at increased risk of frailty than non-caregivers](#)

[Special issue: Transforming the delivery of dementia care in US health care systems](#)

### **Policy/Ethics**

[Special Issue: Older adults and COVID-19: Implications for aging policy and practice](#)

### **Commentary**

[Novel workflows for neurodegenerative clinical trials during COVID-19](#)

[The role of the geriatrician has become even more important in an academic institution during COVID-19](#)

### **Odd and Ends**

[mTOR signaling as a mediator in cancer mutagenesis and drug resistance](#)

[New automated platform for monitoring behavior and healthspan in worms](#)

[New tool for measuring real time metabolic activity in worms](#)

[New method for measuring locomotor activity in fruit flies](#)

[New methodologies in aging research](#)



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